

## POWER PEDESTAL ASSEMBLY

## FIELD OF THE INVENTION

This invention relates to power pedestal assemblies, particularly to weather resistant power pedestal assemblies having a high strength to weight ratio, which may be easily installed by an individual, and most particularly to power pedestal assemblies which are in compliance with the Florida Building Code 2001 wind load requirements, without the need for concrete anchoring.

## BACKGROUND OF THE INVENTION

Power pedestals are used extensively for forming a stable area from which various power equipment, cable television, telephone and other like equipment are mounted. Typically, the main feeder cables for these various utilities run underground, and a portion of the main cable is brought up and affixed in some manner to the pedestal for connection to an intermediate junction device, from whence a connection to the end user is made.

These pedestals have typically been made of wood, metal and concrete, which suffer from weather degradation leading to early failure. It is also known in the art to form pedestals from assorted polymers for the purpose of choosing

1 a non-conductive material, however these pedestals lack the  
2 requisite structural properties to support heavy loads..

3 What the prior art has thus far failed to provide is a  
4 weather resistant power pedestal assembly comprising a  
5 deformation resistant pole, formed from a fiberglass  
6 reinforced resin, in combination with a structure reinforcing  
7 and weather resistant cap which, when assembled, provides an  
8 assembly having a strength to weight ratio of about 18:1.  
9 This construction thus makes it possible to attach  
10 approximately 800 pounds of appurtenant assemblies to an  
11 assembly weighing only about 44 pounds. As an added benefit,  
12 when the lower end of the pedestal is inserted about 36"  
13 below ground, the resultant assembly is capable of meeting  
14 the stringent Florida Building Code 2001 requirements for  
15 wind load requirements without the need for additional  
16 concrete anchoring.

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18 DESCRIPTION OF THE PRIOR ART

19 U.S. Patent 5,838,078 " Apparatus and Systems That  
20 Interface to Facilities and Equipment That Provide Temporary  
21 Electric Utilities to Construction Sites" is directed towards  
22 an electrical interface comprised of permanent electrical  
23 facilities and a temporary electrical facility. The permanent  
24 electrical facilities provide electrical power to a

1 residential neighborhood. The temporary electrical facility  
2 electrically is connected to the permanent electrical  
3 facilities and provides electrical utilities to construction  
4 sites. The temporary electrical facility is comprised of a  
5 first housing, at least one electrical breaker, and at least  
6 one electrical plug. The electrical breaker and the  
7 electrical plug are positioned in and enclosed within the  
8 first housing in such a manner that the at least one  
9 electrical breaker and the at least one electrical plug can  
10 be accessed from a position exterior to the first housing.  
11 The at least one electrical breaker electrically is coupled  
12 to the permanent electrical facilities and to the at least  
13 one electrical plug in such a manner as to selectively switch  
14 power to and from the at least one electrical plug. A process  
15 comprises the following steps: (a) locating and positioning a  
16 stand alone electrical facility in proximity to a permanent  
17 electrical facility, (b) digging a hole in which to place a  
18 first end of the stand alone electrical facility and digging  
19 a trench that extends from the permanent electrical facility  
20 to the hole; c) placing conduit housing an electrical cable  
21 in the trench; and (d) setting the stand alone electrical  
22 facility in the hole and laying the conduit housing the  
23 electrical cable in the trench; (e) filling in the hole  
24 around the first end of the stand alone electrical facility

1 and filling in the trench; and (f) placing the electrical  
2 cable in the hollow pole and electrically connecting the  
3 electrical cable to the permanent electrical facility.

4 This reference fails to teach a weather and deformation  
5 resistant power pedestal assembly having a high strength to  
6 weight ratio, which may be easily installed by an individual,  
7 and most particularly to power pedestal assemblies which are  
8 in compliance with the Florida Building Code 2001 wind load  
9 requirements, without the need for concrete anchoring.

10 U.S. Patent 4,488,013 "Telephone Pedestal Encapsulating  
11 Splice Housing" is drawn to an improved method and apparatus  
12 for joining service wires to selected wire pairs of a loop of  
13 telephone cable housed in a telephone closure or pedestal.

14 The invention provides a splice housing adapted to be  
15 positioned in the pedestal and adapted to house a loop of the  
16 telephone cable. The splice housing also includes an integral  
17 divider plate portion adapted to support one or more terminal  
18 blocks in a variety of arrangements and combinations and also  
19 to support a disconnect block adapted to permit connection  
20 and disconnection of the cable shields to ground and a ground  
21 clamp adapted to permit connection of the cable shields to  
22 ground and to permit connection of the shields of the service  
23 wires to ground. This reference also fails to teach a  
24 weather and deformation resistant power pedestal assembly

1     having a high strength to weight ratio, which may be easily  
2     installed by an individual, and most particularly to power  
3     pedestal assemblies which are in compliance with the Florida  
4     Building Code 2001 wind load requirements, without the need  
5     for concrete anchoring.

6           U.S. Patent 4,751,610 "Plural Utility Supply Pedestal  
7     Including Contained Common Grounding Means" teaches A  
8     mounting pedestal adapted to support an electrical meter and  
9     power box, and other utility service devices, in a compact  
10    and safe arrangement for their provision to a mobile home. A  
11    hollow, plastic post is supported in an upright position in  
12    the earth, and the power box and meter are attached to an  
13    L-shaped mounting bracket on the top of the post. The meter,  
14    power box and other devices are connected to a common ground,  
15    the common ground being at least partly embedded in the  
16    plastic post. In one preferred embodiment, the common ground  
17    includes a flat plate extending substantially throughout the  
18    length of the plastic post and is embedded therein. In a  
19    second preferred embodiment, the common ground includes a  
20    plurality of conductors extending through the plastic post,  
21    the conductors being connected by a common ground wire  
22    extending between them, which is disposed interiorly of the  
23    post. The supply wires for the utility devices extend within  
24    the plastic post from below ground level upwards to the

1 associated devices. This reference fails to teach a weather  
2 and deformation resistant power pedestal assembly having a  
3 high strength to weight ratio, which may be easily installed  
4 by an individual, and most particularly to power pedestal  
5 assemblies which are in compliance with the Florida Building  
6 Code 2001 wind load requirements, without the need for  
7 concrete anchoring.

8 U.S. Patent 3,714,369 "Pedestal for Electrical Circuit  
9 Components Having A Flexible Protective Dielectric Shield"  
10 discloses a hollow vertical pedestal or terminal housing  
11 having a bottom section for support and cable entrance, and  
12 an upper section, the front and top being removable for  
13 access to the interior into which cables and the like to be  
14 connected are terminated, the upper section at the back being  
15 provided with brackets for attachment of electrical circuit  
16 components and a protective shield of flexible dielectric  
17 material being provided to enclose the circuit components and  
18 provide a dielectric shield, a dust shield and a snow and  
19 weather shield. This reference fails to teach a weather and  
20 deformation resistant power pedestal assembly having a high  
21 strength to weight ratio, which may be easily installed by an  
22 individual, and most particularly to power pedestal  
23 assemblies which are in compliance with the Florida Building  
24 Code 2001 wind load requirements, without the need for

1 concrete anchoring.

2 U.S. Patent 3,864,510 "Pedestal Closure for Buried  
3 Cable" is directed toward a pedestal closure that includes a  
4 channel-shaped rear member and upper and lower channel-shaped  
5 front members mating therewith to define a terminal chamber.  
6 A backboard is hinged to a bracket mounted on the rear member  
7 to divide the upper portion of the chamber into front and  
8 rear compartments for assigned and unassigned conductors,  
9 respectively. The backboard is electrically connected to a  
10 grounding bracket via a flexible conductor which allows  
11 movement of the backboard without disturbing the ground  
12 connection. The lower front member includes a vertical  
13 channel formed in the exterior face thereof for receiving  
14 conductors such as service wires so that these conductors can  
15 be readily added to or removed from an installed closure  
16 without the removal of the lower front member. The vertical  
17 channel has a lid including a slotted opening along the edge  
18 thereof which permits installation of a conductor when the  
19 surrounding soil is frozen and subsequent burial of such  
20 conductor without disrupting the service. This reference  
21 fails to teach a weather and deformation resistant power  
22 pedestal assembly having a high strength to weight ratio,  
23 which may be easily installed by an individual, and most  
24 particularly to power pedestal assemblies which are in

1 compliance with the Florida Building Code 2001 wind load  
2 requirements, without the need for concrete anchoring.

3 SUMMARY OF THE INVENTION

4       The present invention teaches a weather and deformation  
5 resistant power pedestal assembly having a high strength to  
6 weight ratio, which may be easily installed by an individual,  
7 and most particularly to power pedestal assemblies which are  
8 in compliance with the Florida Building Code 2001 wind load  
9 requirements, without the need for concrete anchoring. In a  
10 preferred embodiment the assembly includes a fiberglass post  
11 which is weather resistant, thereby providing a longer life  
12 cycle than concrete, wood or steel and in a particularly  
13 preferred embodiment includes a UV inhibitor for protection  
14 from ultraviolet light degradation.

15       Assembly of the cap and post yield a deformation and  
16 wind resistant assembly having a strength-to-weight ratio of  
17 about 18:1. As opposed to prior art devices which often  
18 required multiple individuals for installation, the power  
19 pedestal assembly of the present invention only requires a  
20 single individual for installation. Furthermore, direct  
21 burial at a depth of 36" is in compliance with Florida  
22 Building Code 2001 wind load requirements.

23       Accordingly, it is a primary objective of the instant  
24 invention to provide a weather resistant power pedestal



1 assembly comprising a deformation resistant pole, formed from  
2 a fiberglass reinforced resin, in combination with a  
3 structure reinforcing cap which, upon assembly, provides an  
4 structure having a strength to weight ratio of about 18:1.

5 It is a further objective of the instant invention to  
6 provide a deformation resistant assembly capable of meeting  
7 the Florida Building Code 2001 Wind Load Requirements,  
8 without the need for concrete anchoring.

9 It is yet another objective of the instant invention to  
10 teach a power pole assembly which provides increased mounting  
11 surface area through the use of at least one mounting surface  
12 extender.

13 It is a still further objective of the invention to  
14 provide ultraviolet degradation resistance to the power  
15 pedestal assembly.

16 It is yet another objective of the instant invention to  
17 provide a pedestal incorporating therein a veil effective to  
18 prevent blooming of the glass fibers.

19 Other objects and advantages of this invention will  
20 become apparent from the following description taken in  
21 conjunction with any accompanying drawings wherein are set  
22 forth, by way of illustration and example, certain  
23 embodiments of this invention. Any drawings contained herein  
24 constitute a part of this specification and include exemplary

1     embodiments of the present invention and illustrate various  
2     objects and features thereof.

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4     BRIEF DESCRIPTION OF THE FIGURES

5     Figure 1 is a side view of a pedestal;

6     Figure 2 is a rear view of a pedestal;

7     Figure 3 is a perspective view of a mounting surface  
8     extender.

9

10    DETAILED DESCRIPTION OF THE INVENTION

11           Now referring to Figures 1 and 2, side and rear views  
12    are provided of a deformation resistant power pedestal  
13    assembly 1 comprising a hollow post 10 formed of a fiberglass  
14    reinforced resin. In a preferred embodiment the post is  
15    formed from an isophthalic polyester resin having a UV  
16    inhibitor incorporated therein and containing greater than  
17    50% glass by weight, in a particularly preferred embodiment  
18    the post contains from about 56.5% to about 61% glass by  
19    weight. In order to prevent blooming, a condition wherein  
20    the ends of the glass fibers protrude from the polyester  
21    resin matrix, the instant post is formed with an integral  
22    polyester veil. This veil is a polyester cloth which is  
23    molded to the pedestal pole's surface during manufacture,  
24    wherein it is intrinsically bound to the surface by

1 intermingling with the polyester resin. The veil thus  
2 encapsulates the fiberglass and prevents blooming.

3 The post has spaced apart load bearing walls defining an  
4 exterior surface, an interior surface (not shown), a first  
5 open end and a second open end. While the post may be of any  
6 shape, as illustrated herein the post is either a square or a  
7 rectangle. The post is designed for direct burial, such that  
8 the post may be implanted directly into the ground 15,  
9 without the need for concrete reinforcement, preferably at a  
10 depth of about 30" - 36" below the ground level, and provide  
11 above ground support to one or more appurtenant structures  
12 attached thereto, so as to enable above-ground placement of  
13 loads up to 18 times the weight of the pedestal assembly.

14 The structure reinforcing cap 12, which may be formed  
15 from any suitable polymeric resin, for example polypropylene,  
16 a high density polyethylene or fiberglass reinforced nylon,  
17 is constructed and arranged for insertion within a first open  
18 end of said post. In a particularly preferred embodiment,  
19 the cap is formed from a reinforced, high rigidity, UV  
20 stabilized polypropylene. Insertion of the structure  
21 reinforcing cap is provided such that the structure  
22 reinforcing cap frictionally engages the interior surface of  
23 the post and substantially prevents movement of the exterior  
24 surface thereof when various types of appurtenant structures

1 (shown in phantom) such as power supply cabinets, power  
2 panels, meter cans, junction boxes and the like are mounted  
3 thereon, utilizing through-bolts or the like, which would  
4 otherwise cause deformation and possible structural failure  
5 of the post walls. Various retention means 14 are  
6 contemplated by the instant invention for fixedly retaining  
7 the structure reinforcing cap within the hollow rectangular  
8 post. In one particularly preferred embodiment the retention  
9 means may be screws, rivets, or the like 14, as shown at the  
10 point of insertion in Figure 1, which are applied so as to  
11 simultaneously engage said cap and said load bearing walls  
12 whereby removal of said cap is prevented. Such attachment  
13 insures retention of said cap within said post, thus enabling  
14 the load bearing walls to be maintained in a spaced apart  
15 position subsequent to mounting thereon of one or more power  
16 boxes or the like having a weight up to 18 times the weight  
17 of said power pedestal assembly. Mounting is generally  
18 accomplished by the use of through bolts, which upon  
19 tightening, would have deformed and cracked prior art  
20 devices. Owing to the cooperation of the structure  
21 reinforcing cap and hollow post, the instant invention  
22 provides a solution to this problem. While the structure  
23 reinforcing cap need not completely seal the open end, in a  
24 preferred embodiment it does provide closure to the first

1 open end.

2 Now referring to Figure 3, when it becomes necessary to  
3 provide additional mounting surface, the power pedestal  
4 assembly may be modified by the use of one or more mounting  
5 surface extenders 16 as shown. The surface extenders have a  
6 first surface and a second surface, where the first surface  
7 is constructed and arranged for removable engagement with the  
8 exterior surface of the power pedestal 10, for example via  
9 the use of mechanical fasteners such as screws, rivets and  
10 the like (not shown), and the second surface is constructed  
11 and arranged to provide increased mounting area for support  
12 of variously attached structures.

13 All patents and publications mentioned in this  
14 specification are indicative of the levels of those skilled  
15 in the art to which the invention pertains. All patents and  
16 publications are herein incorporated by reference to the same  
17 extent as if each individual publication was specifically and  
18 individually indicated to be incorporated by reference.

19 It is to be understood that while a certain form of the  
20 invention is illustrated, it is not to be limited to the  
21 specific form or arrangement herein described and shown. It  
22 will be apparent to those skilled in the art that various  
23 changes may be made without departing from the scope of the  
24 invention and the invention is not to be considered limited

1 to what is shown and described in the specification and any  
2 drawings/figures included herein.

3 One skilled in the art will readily appreciate that the  
4 present invention is well adapted to carry out the objectives  
5 and obtain the ends and advantages mentioned, as well as  
6 those inherent therein. The embodiments, methods, procedures  
7 and techniques described herein are presently representative  
8 of the preferred embodiments, are intended to be exemplary  
9 and are not intended as limitations on the scope. Changes  
10 therein and other uses will occur to those skilled in the art  
11 which are encompassed within the spirit of the invention and  
12 are defined by the scope of the appended claims. Although  
13 the invention has been described in connection with specific  
14 preferred embodiments, it should be understood that the  
15 invention as claimed should not be unduly limited to such  
16 specific embodiments. Indeed, various modifications of the  
17 described modes for carrying out the invention which are  
18 obvious to those skilled in the art are intended to be within  
19 the scope of the following claims.

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